High school students used a variety of materials to build water filters while learning about science, technology and engineering career options at the e-Girls event co-sponsored by Idaho National Laboratory.

e-Girls learn how to solve real-world problems using science, technology

by Rebecca Jones, *INL Communications & Governmental Affairs*

Choosing an education and career path is an essential rite of passage for young students. Many don't have a chance to try on a field until they have begun their college education. But 10th- and 11th-grade female students had a chance to learn about career options in science, technology and engineering at the sixth annual e-Girls. The two-day event, co-sponsored by Idaho National Laboratory, allowed the girls to attend workshops focused on showcasing how opportunities in technical careers are working on real-world problems.

The 53 participating students came from Idaho's Treasure Valley and Utah. Nearly half used the free transportation from Wilder, Homedale, Caldwell and Nampa high schools. Free rides were introduced this year to encourage more participation from the western part of the valley. The students quickly found that the trip was worth the experience.

INL microbiologist Hope Lee, who studies how microbes can be used to clear groundwater toxins, showed how microbiology is used to help solve water problems.

They were able to try their hands at welding, experience dorm life by spending the night at a Boise State University residence hall, and meet astronaut and educator Barbara Morgan. They also got hands-on with different technical fields in a series of workshops.

"Virtual Worlds" let the girls build their own virtual realities using computer programming. In "Tie Dye Chromatography," the students learned about chromatography, a tool used to determine components of a mixture, by using permanent markers to tie-dye T-shirts. "Groundwater & Microbes: The Amazing Things We Don't Know," hosted by INL microbiologist Hope Lee, showed how microbiology is used to help solve many water problems, including the recent BP oil spill in the Gulf of Mexico.

In her presentation, Lee shared her personal path toward a scientific career, encouraging the attending students to pursue their own educations. Despite living in a home where neither parent had a full high school education, Lee earned a doctorate in microbiology. Today she studies how microbes can be used to clear groundwater of toxins.

The complexity of her field is something that will continue to provide opportunities for innovative careers, Lee said.

"If you are interested in science, and you want job security for the next 50 years, microbiology is it," she said.

In addition to her work clearing groundwater of contaminants at the Department of Energy's Idaho site, Lee explained that her expertise allows her to work in other areas that make a real difference. At the time of her presentation, she was under contract with BP to help develop solutions to cleanse the water impacted by the Gulf oil spill.

In the workshop, Lee showed the girls how naturally occurring elements can be and are used to successfully clear water of contaminants and toxins. The students then had a chance to try their hands at her field. With materials like rocks, coffee filters, sand, paper towels, soil and nylons, the girls built their own water filters. Lee then poured water "contaminated" with cooking oil, salt and dye through the filters to see how the materials removed the toxins. Many, including Lee, were shocked at how effective the homemade filters were at producing clear water.

The Satz Asbury Family Foundation, Micron Foundation, the Whittenberger Foundation and INL sponsor the e-Girls event, which is held on the BSU campus.

After two days dedicated to technical careers, the students walked away with information and experience that can change their education and career paths. Hearing how science and technology can make a difference in the world is helpful. But participating in hands-on demonstrations showed these girls that science and technology can open the doors to limitless career possibilities.

"The camp was a great success in promoting engineering and technical careers to young women," said e-Girls coordinator Leandra Aburusa-Lete.

"We believe we made an impact on their future education and career decisions."

Feature Archive